

CLASSIFIED MESSAGE

SECRET

ROUTING

1	2	3	4	5	6
			DDK	CPS	CD

DATE 2105Z 17 MAY 63

NRO REVIEW COMPLETED

TO DIRECTOR
25X1A

FROM

ACTION: OSA (1-15)

INFO : S/C (16)

TOR 2256Z 17 MAY 63

25X1A

ROUTINE

IN 76326

25X1A

TO

CORONA/LANYARD

ATTN:

25X1A

REF:

SPECIAL UNIT STATUS REPORT

SPECIAL UNIT STATUS REPORT AS OF 17 MAY 1963. STATUS OF LABORATORY TEMPERATURE CONTROL PROBLEM AND UNIT STATUS IS AS FOLLOWS:

ON MAY 5 ATMOSPHERIC TESTING OF UNIT 4 WITH HAPL-8 LENS INSTALLED WITHOUT A MIRROR AND DRT IN THE ALTERNATE TUBE CONFIGURATION PROVIDED THE BEST STATIC AND DYNAMIC RESULTS OBSERVED TO DATE. THEN VACUUM TESTS WERE PERFORMED AND A FOCUS SHIFT WAS NOT OBTAINED. HAPL-8 WAS THEN REMOVED AND HAPL-11 SUBSTITUTED WITH PHOTO TESTING RESUMING AT NOON ON 7 MAY. PREVIOUS TO THIS DATE LABORATORY TEMPERATURE WAS STABLE BETWEEN 72 TO 75 DEGREES. DURING PHOTOGRAPHIC TESTS TO OBTAIN BEST ATMOSPHERIC FOCUS WITH HAPL-11 THE TEMPERATURE VARIATION OF THE LABORATORY OCCURRED COINCIDENT WITH FACILITY SWITCH OVER TO COOLING AND TURNING OFF OF ALL HEATING. ON FRIDAY A PHOTO-

DOCUMENT NO. 29
NO CHANGE IN CLASS. ☒
DECLASSIFIED
SS. CHANGED TO: TS S C
T REVIEW DATE: 2011
CH: HR 70-2
RE: 17-7-81

SECRET

GROUP 1
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GRAPHIC TEST WAS CONDUCTED AT 17:20 (LABORATORY TEMPERATURE 68 DEGREES) WHICH INDICATED EXTREMELY POOR IMAGE QUALITY.

PROVISION WAS THEN MADE FOR MONITORING THE VISUAL IMAGE. BEAM SPLITTER MOUNTING SCREWS WERE ADJUSTED IN AN ATTEMPT TO RELIEVE ANY MOUNTING STRAIN PRESENT. THIS EFFORT CONTINUED WITHOUT SUCCESS UNTIL SATURDAY AFTERNOON AT WHICH TIME THE LABORATORY TEMPERATURE WAS APPROXIMATELY 65 DEGREES. IT WAS CONCLUDED THAT THIS SEVERE TEMPERATURE VARIATION WAS THE MOST LIKELY CAUSE OF SUSPECTED BEAM SPLITTER MOUNTING STRAIN.

ARRANGEMENTS WERE MADE TO TURN FACILITY HEAT BACK ON IN AN ATTEMPT TO RESTORE NORMAL LABORATORY TEMPERATURE AND CONTROL IN LIGHT OF THE UNSEASONABLE COLD SPELL. SINCE NOON MONDAY, 13 MAY, LABORATORY TEMPERATURE HAS BEEN 70 DEGREES PLUS OR MINUS 2 DEGREES. ON MONDAY THE DRT OPTICS WERE REALIGNED WITH NO IMPROVEMENT IN IMAGE QUALITY. TUESDAY AND WEDNESDAY WAS SPENT IN SETTING UP AND TESTING THE SURFACE FLATNESS OF THE BEAM SPLITTER. WEDNESDAY EVENING THE BEAM SPLITTER WAS REMOVED AND BY THURSDAY AFTERNOON THE IMAGE QUALITY OF THE PARABOLIC COLLIMATOR WAS DETERMINED TO BE SATISFACTORY.

PROVISION IS NOW BEING MADE TO MOUNT A SMALL FLAT MIRROR IN LIEU OF THE BEAM SPLITTER IN AN ATTEMPT TO MINIMIZE DRT OPTICS THERMAL AND MOUNTING SENSITIVITY. A POSSIBLE LOSS IN RESOLUTION MAY BE EXPECTED DUE TO THE RELATIVELY LARGE CENTRAL APERTURE OBSTRUCTION (5 INCHES) WITH THIS SYSTEM.

IN PARALLEL THE BEAM SPLITTER IS BEING COMPLETELY RE-SHIMMED AND MOUNTED. TESTS AT PRESENT, WITH THE LABORATORY TEMPERATURE AT

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74 DEGREES, INDICATE AN ACCEPTABLE STRAIN FREE CONDITION. THIS WILL BE MONITORED FOR EVIDENCE OF DEGRADATION.

UNIT TESTING WILL BE RESUMED BY TOMORROW UPON COMPLETION OF DRT REASSEMBLY. PRESENT PLAN IS TO USE SMALL MIRROR AND HOLD BEAM SPLITTER AS BACKUP.

PROJECT OFFICE IS IN CLOSE LIAISON WITH PLANT FACILITIES AND THE DIRECTOR OF OPTICAL SYSTEM DIVISION TO:

1. PROVIDE A COMPLETE CHECKOUT AND OVERHAUL OF THE EXISTING LABORATORY AIR CONDITIONING SYSTEM. A ONE-DAY SHUTDOWN IS PLANNED AFTER NEXT SHIPMENT.

2. PROVIDE ANY NECESSARY MODIFICATIONS OF INCREASED HEATING CAPACITY TO ELIMINATE THE PRESENT TEMPERATURE CONTROL PROBLEMS.

THE EARLIEST DATE NOW SCHEDULED FOR COMPLETION OF ACCEPTANCE AND SHIPMENT OF UNIT 4 IS TUESDAY, 21 MAY. PRELIMINARY PHOTO TESTS ON HAPL-11 IN UNIT 4 INDICATE NORMAL VACUUM SHIFT THOUGH IMAGE QUALITY WAS POOR DUE TO DRT.

IF DRT QUALITY OBTAINED VISUALLY AT PRESENT IS MAINTAINED IN FUTURE TESTS AND UNIT 4 WITH HAPL-11 DOES NOT CONTINUE TO EXHIBIT PROPER VACUUM SHIFT THEN HAPL-11 WILL BE INSTALLED IN UNIT 6 BY LATE MONDAY THUS INFERRING THAT UNIT 4 IS THE CAUSE OF THE PRESENTLY UNEXPLAINED LACK OF VACUUM SHIFT. WITH THIS SITUATION, WHICH IS CONSIDERED UNLIKELY AT THE PRESENT, DELIVERY COULD THEN BE ANTICIPATED ONE WEEK LATER ON TUESDAY, 28 MAY.

-END OF MSG-

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